

Title (en)

METHOD FOR COATING PARTICLES FOR GENERATIVE PROTOTYPING PROCESSES

Title (de)

VERFAHREN ZUR BESCHICHTUNG VON PARTIKELN FÜR GENERATIVE RAPID PROTOTYPING PROZESSE

Title (fr)

PROCEDE POUR REVETIR DES PARTICULES POUR DES METHODES DE CONCEPTION RAPIDE GENERATIVE DE PROTOTYPES

Publication

EP 1594625 B1 20060524 (DE)

Application

EP 04710787 A 20040213

Priority

- DE 2004000258 W 20040213
- DE 10306887 A 20030218

Abstract (en)

[origin: DE10306887A1] Adhesive, which is activated by a binder fluid or laser light, is deposited from a solution onto the powder particles (7) which are fluidized in a gas flow (15). The particles and/or coated particles are then subjected to ionized particles (12) to remove electrostatic charges and thus agglomeration risks. Gas for fluidizing the particles (7) is water free. Additional materials such as metal or ceramic nanoparticles and/or microparticles with a mean particle size of not > 5 Micro may also be deposited on the surfaces of the powder particles. Granules may be formed during the coating stage and contain adhesive as a binder. Coating thickness is 40 nm to 5 Micro and coatings constitute 0.3-8 wt.% of the powder. Water content in the adhesive solution is not > 5%. Independent claims are included for: (1) use of the coated particles for production of an object in which a layer of coated particles, not > 250 Micro thick, is applied to a substrate and wetted with a binder fluid comprising mainly organic solvent and having a water content not > 45%, the entire process being repeated as many times as necessary; (2) use of coated particles for producing an object in which coated particles are repeatedly applied to a substrate and the adhesive melted or sintered by a laser whose energy output is insufficient for melting or sintering the particles; and (3) use of objects produced by the claimed processes for creating sintered products used in casting processes and in tool and mold construction.

IPC 8 full level

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CPC (source: EP US)

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